Hazard Identification and Risk Assessment (HRA)

- HRA should be a comprehensive approach
- HRA should be formal enough to conduct a proper assessment (consider use of outside consultants)
- HRA needs to identify and address issues that are specific to the institution's location and mission

Hazard Identification and Risk Assessment (HRA)

- Outline of HRA Activities:
  - Identify what hazards could affect the institution
  - Profile these events and determine what buildings and other assets are the most vulnerable to damage from identified hazards
  - Estimate losses and potential risks to the institution

Hazard Identification and Risk Assessment (HRA)

- A possible approach to HRA:
  - Consider the past history of some events such as weather related incidents
  - Convene a multi-discipline steering committee
  - Evaluate risks to specific buildings and functions based on location, facility information, criticality, and vulnerabilities of individual operations
  - Consider qualitative rating (limited exposures) vs. a quantitative rating (significant exposures)

Hazard Identification and Risk Assessment (HRA)

- A possible approach to quantitative rating of significant hazards (useful for directing potentially limited mitigation resources):
  - Assign hazard index (1=low to 5=high)
  - Consider building parameters (square footage, replacement value)
  - Value of contents
  - Loss of function (LOF) ($/day)
  - Community Impact (CI) ($/day)
  - Criticality of Building and/or Functions Housed

Hazard Identification and Risk Assessment (HRA)

- Quantitative Evaluation of Significant Hazards (continued):
  - Total Unit Cost=(Building Damage Cost +Contents Damage Cost + LOF Cost +CI Cost)/Square Footage

Hazard Identification and Risk Assessment (HRA)

- Quantitative Evaluation of Significant Hazards (continued):
  - Loss of Function (LOF) cost=
    - Square footage factor X [(Annual University Budget/365 days)X Estimated Days w/ LOF]
    - Square Footage Factor=(Building Square Footage X Building Criticality Score)/Total Factored Campus Square Footage

Hazard Identification and Risk Assessment (HRA)

- Quantitative Evaluation of Significant Hazards (continued):
  - Community Impact (CI) cost=
    - Square Footage Factor X [(Annual City Budget/Total City Population) X Campus Population]
    - Square Footage Factor=(Building Square Footage X Building Criticality Score)/Total Factored Campus Square Footage

Hazard Identification and Risk Assessment (HRA)

- Developed quantitative scores for significant hazards will yield a ranking of buildings that need to be considered for appropriate mitigation strategies and funds available to implement these strategies